



The Virginia Building and Code Officials Association &
The City of Newport News Department of Codes Compliance present

DECK SAFETY AWARENESS

DECK SAFETY



21 people hurt in deck collapse at VCU party

Posted: Nov 9, 2008 10:14 AM EST
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By Sunni Blevins - bio | email

RICHMOND, VA (NBC12) - More than 20 people are recovering, after a deck they were on came crashing down. It happened in Richmond's Fan District late Friday night.



Two escaped potential serious injuries after a deck collapse in Newport News

By David Macaulay | 247-7838

April 30, 2009

NEWPORT NEWS — Free deck inspections will be conducted in [Newport News](#) next month, just days after the potential dangers were highlighted by the collapse of a deck that injured two.

The two-story deck attached to a property on Deep Creek Road collapsed about noon Sunday when it was being cleaned by a power washer. One victim was on top of the deck and the other was beneath it when the deck collapsed.

The New York Times

One Killed and 18 Hurt in Balcony Collapse

Published Monday, May 18, 1997

A second-floor balcony filled with people seeking a view of the University of Virginia's graduation ceremony collapsed today, killing one person and injuring 18.

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- ✘ “Decks cause more injuries and loss of life than any other part of the home structure. Except for hurricanes and tornadoes, more injuries may be connected to deck failures than all other wood building components and loading cases combined.”
- ✘ - Don Bender, Director of Wood Materials and Engineering Laboratory at Washington State University

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- ✖ Each year many people are injured as a result of deck failures that may have been avoided by performing basic preventive maintenance.



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× Statistics*

- + 40, 000,000 decks in the US over 20 years old

- × If 1% unsafe, 40,000 potential decks unsafe

- + 2000 – 2006 Deck Related Incidents

- × 30 deaths

- × 350 injuries

- × 75% of persons in a deck collapse likely to be killed or injured

*Source North American Deck and Railing Association

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- ✖ Deck failures can occur for various reasons
 - + Faulty Construction Methods
 - + Improper or Unsuitable Materials
 - + Lack of Maintenance



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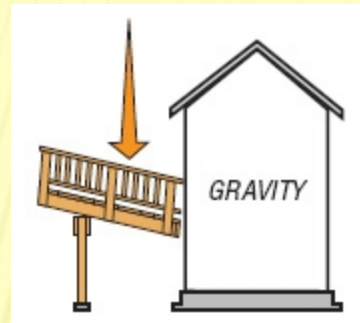
- ✖ As a home owner there are some simple things you can do which may help prevent unexpected problems with your deck.



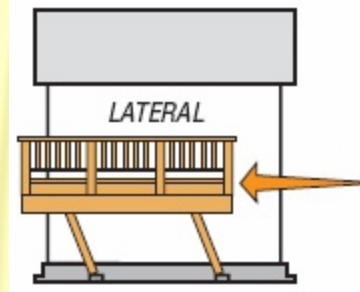
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✕ Decks are subject to multiple forces (loads)

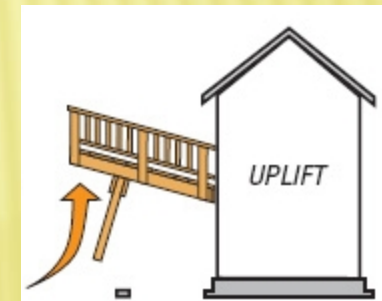
+ Gravity



+ Lateral



+ Uplift



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- ✘ A properly constructed and maintained deck will be able to withstand each of these forces and provide you with a safe and stable addition to your home.
- ✘ The following tips will help you identify potential issues that may cause a problem:

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× Tip #1

- + Check support posts and beams for rot, splitting or abnormal movement.



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× Tip #2

- + Closely check the attachment points between the house and deck.



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Simply nailing the deck ledger to the band is no longer permitted. A more positive connection using lag screws or bolts was introduced in the 2003 Virginia Construction Code.

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**2006 INTERNATIONAL RESIDENTIAL CODE TABLE R502.2.2.2.1
FASTENER SPACING FOR A RESIDENTIAL SOUTHERN PINE DECK LEDGER
AND A 2-INCH NOMINAL SOLID-SAWN BAND JOIST (50 PSF TOTAL LOAD) ^c**

JOIST SPAN (ft)	6" AND LESS	6'-1" TO 8'	8'-1" TO 10'	10'-1" TO 12"	12'-1" TO 14'	14'-1" TO 16'	16'-1" TO 18"
	On-Center Spacing of Fasteners ^{d,e}						
1/2" x 4" Lag Screw a,b	30	23	18	15	13	11	10
1/2" Bolt with washers	36	36	34	29	24	21	19
<p>a. The maximum gap between the face of the ledger board and face of the house band joist shall be ½ inch.</p> <p>b. The tip of the lag screw shall fully extend beyond the inside face of the band joist.</p> <p>c. Ledgers shall be flashed to prevent water from contacting the house band joist.</p> <p>d. Lag screws and bolts shall be staggering as set out in Section Section R502.2.2..1.1.</p> <p>e. Deck ledger shall be 2x8 PPT No. 2 Southern Pine (minimum) or other approved method and material as established by standard engineering practice.</p>							

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× Tip #3

- + Check all fasteners, bolts, brackets, etc., for rust and corrosion. Look for improper fasteners. Screws shear under stress and should not be used for structural attachments.



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× Tip #4

- + Check all guards and rails to be sure they are sturdy and well secured.



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× Tip #5

- + Use grills, heaters and outdoor fire pits with care and be sure to observe all rules regarding their use.



CRITICAL CHECKPOINTS



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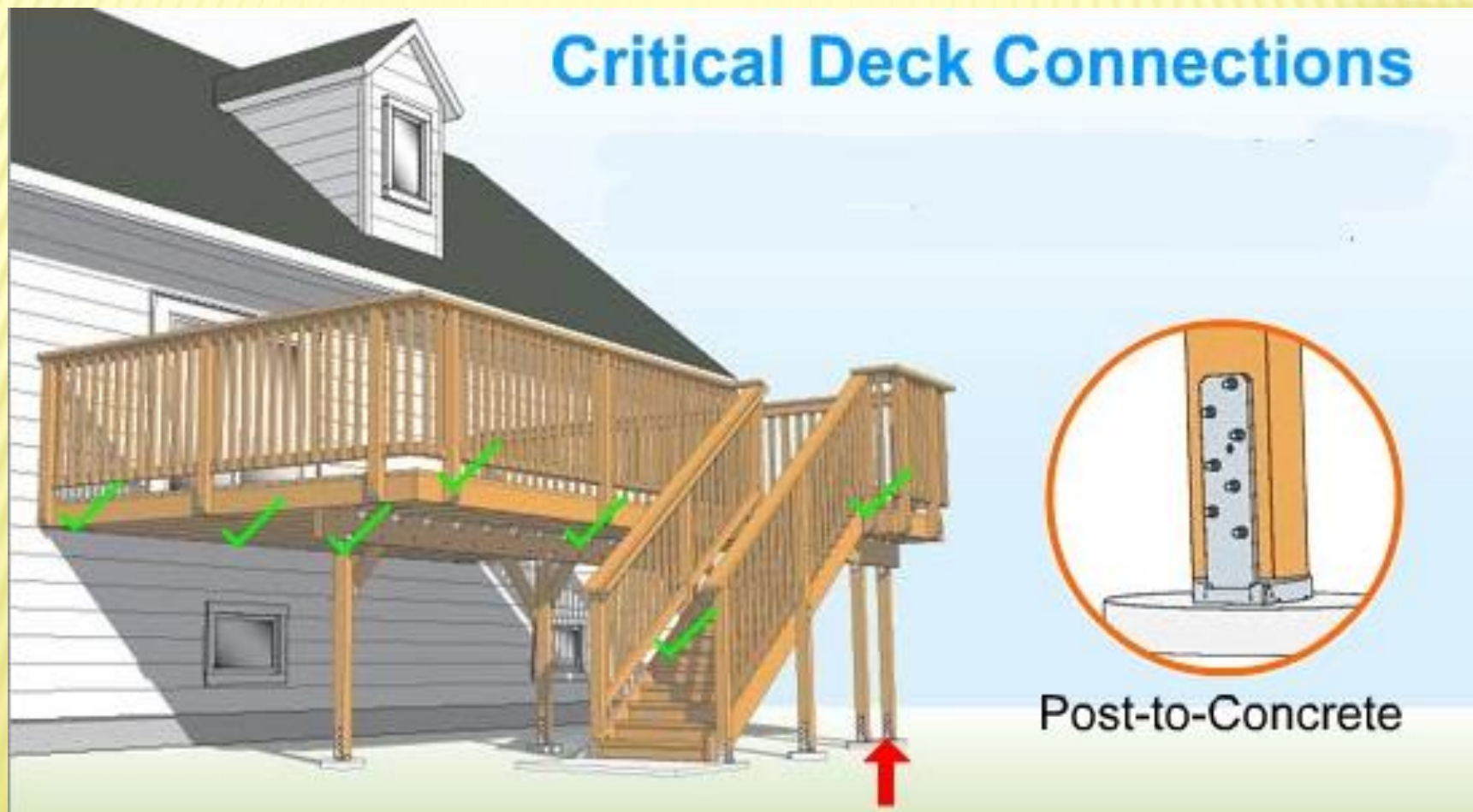
CRITICAL CHECKPOINTS



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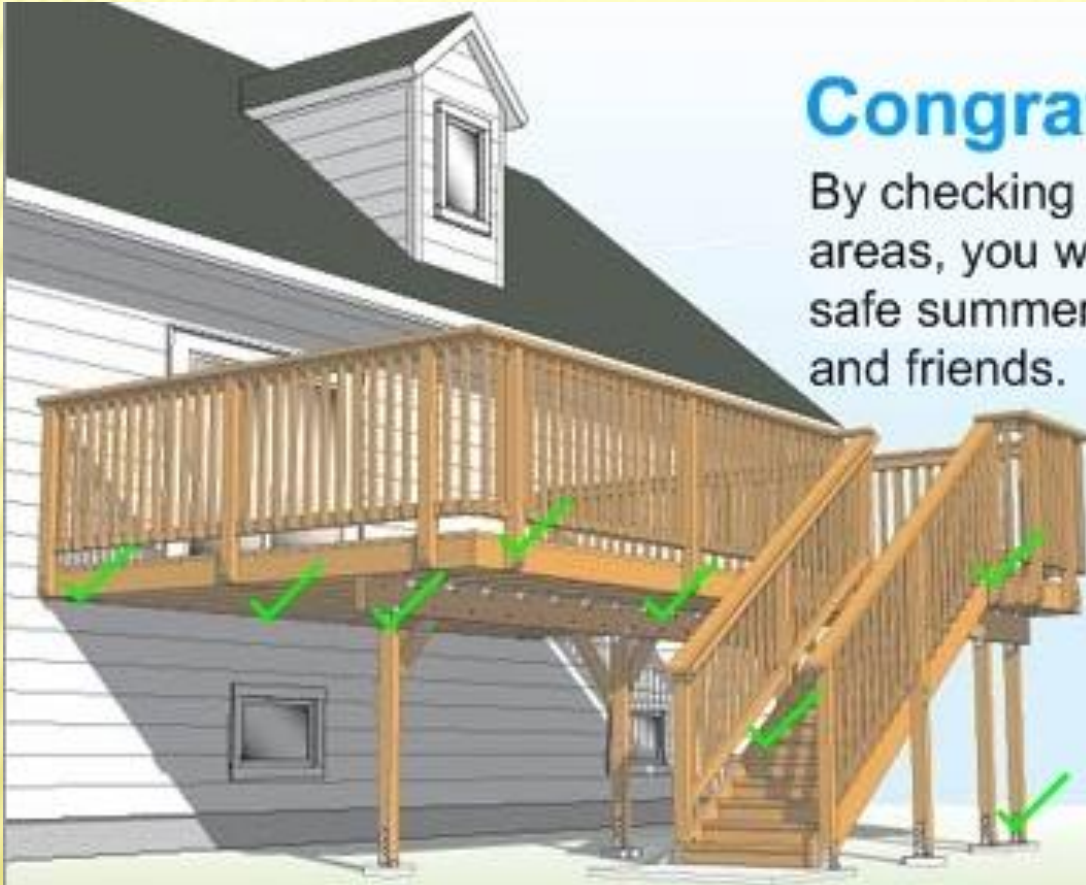
CRITICAL CHECKPOINTS



CRITICAL CHECKPOINTS

Congratulations!

By checking each of these critical areas, you will help to ensure another safe summer season for your family and friends.



Thanks for helping to observe May as

DECK SAFETY AWARENESS MONTH

**In
VIRGINIA**



Virginia Building
and Code
Officials
Association



Newport News
Department of Codes
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